

AMSAT News Service Weekly Bulletins

Issue: ANS-165

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SB SAT @ AMSAT \$ANS-165.01

N4HY PROVIDES DOVE STATUS

HR AMSAT NEWS SERVICE BULLETIN 165.01 FROM AMSAT HQ
SILVER SPRING, MD JUNE 13, 1992 BID:\$ANS-165.01
TO ALL RADIO AMATEURS BT

DOVE Speech Development and Testing Continues

The DOVE software team has reset the DOVE spacecraft to the ROM and is reloading the startup software on S band. After it's return to 145.825 MHz in the next couple of days, the command stations will be doing data dumps to try to find the software bug. The next voice test load will alternate between the original voice message program and a DSP program for the DOVE Voice CPU, which is a simple direct digital synthesis oscillator. It will be generating a sine wave through the digital to analog converter. These tests are to assure us that all the hardware is functioning properly after being dormant for over two years, and to test our "work-arounds" for several compromises and faults in the way DOVE was implemented and the other faults that have been detailed elsewhere. After this process is completed the software development team will implement the file system, and upload large files of digitized waveforms, not all of them being speech. A few surprises from DOVE's owner, PY2BJO, are in store.

[The AMSAT News Service (ANS) would like to thank N4HY for this bulletin item.]

/EX

SB SAT @ AMSAT \$ANS-165.02

STS-50 SAREX INFORMATION

HR AMSAT NEWS SERVICE BULLETIN 165.02 FROM AMSAT HQ
SILVER SPRING, MD JUNE 13, 1992 BID:\$ANS-165.02
TO ALL RADIO AMATEURS BT

STS-50 SAREX Mission Update

The next Shuttle Amateur Radio Experiment (SAREX) mission for 1992 is now on the launch pad! This flight, designated STS-50/USML, will perform materials science studies on the Space Shuttle Columbia. STS-50 represents the first Extended Duration Orbiter (EDO) spacelab mission. As such, the shuttle crew will work "around-the-clock" for a record breaking 13 day mission. On-board the Columbia will be newly licensed hams Commander Dick Richards (KB5SIW) and Mission Specialist Ellen Baker (KB5SIX). Launch is planned to occur no earlier than June 25 at 16:07 UTC. A nominal injection will place Columbia 140 nautical miles high with a 28.5 degree orbital inclination. SAREX capabilities for this mission include operations on 2-meter voice, packet radio, and SSTV. In addition, a 70 cm "receive only" FSTV station will be set-up to receive video from pre-selected stations on the Earth. The Shuttle downlink frequency for all contacts (voice, packet and SSTV) will be 145.550 MHz. Voice uplink frequencies will be identical to those used on the STS-45 SAREX flight. These are: 144.95 MHz, 144.97 MHz and 144.91 MHz except for Europe which will use 144.80 MHz, 144.75 MHz and 144.70 MHz. The prime voice callsign is KB5SIW. To connect to the packet radio robot station on Columbia, use the callsign W5RRR-1. For SSTV operations, the shuttle crew will use the callsign W5RRR/S. For this mission, the uplink frequency for packet radio and SSTV is 144.95 MHz. A copy of the prelaunch Keplerian elements is given below. For more

information on SAREX, in general, see the March/April 1992 and the March 1990 issues of the AMSAT Journal.

STS-50

```
1 00050U      92177.72208827 .00218800 00000-0 61700-3 0    51
2 00050 28.4666 347.3569 0003544 305.5248 54.5060 15.90413559    23
```

Satellite: STS-50

Catalog number: 00050

Epoch time: 92177.72208827 =====> (25 JUN 92 17:19:48.43 UTC)

Element set: JSC-005

Inclination: 28.4666 deg

RA of node: 347.3569 deg Space Shuttle Flight STS-50

Eccentricity: .0003544 Pre-launch Keplerian Elements

Arg of perigee: 305.5248 deg Launch: 25 JUN 92 16:07 UTC

Mean anomaly: 54.5060 deg

Mean motion: 15.90413559 rev/day W5RRR

Decay rate: 2.1880e-03 rev/day*2 NASA Johnson Space Center

Epoch rev: 2

[The AMSAT News Service (ANS) would like to thank Frank H. Bauer (KA3HD0), AMSAT V.P. for Manned Space Operations for the information which went into this bulletin item.]

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SB SAT @ AMSAT \$ANS-165.03

K8OCL RESIGNS FROM AMSAT BOD

HR AMSAT NEWS SERVICE BULLETIN 165.03 FROM AMSAT HQ
SILVER SPRING, MD JUNE 13, 1992 BID:\$ANS-165.03
TO ALL RADIO AMATEURS BT

John Champa (K8OCL) Resigns AMSAT-NA Board-of-Director (BOD) Seat

In a surprise move last week, John Champa (K8OCL) resigned his seat on the AMSAT-NA Board of Directors (BOD) and withdrew his nomination for the upcoming BoD election.

John is also the Editor of the R. Myers Communications publication OSR, and it is understood that he will continue in that role.

In his letter to AMSAT-NA Headquarters, Dr. Champa stated that he wanted to devote more of his time to AMSAT technical pursuits. He is associated with the Detroit OSCAR Users Group (DOUG) and has been serving as AMSAT liaison and consultant to the SEDS (Students for the Exploration and Development of Space). It is understood that he will continue in these roles also.

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SB SAT @ AMSAT \$ANS-165.04

A0-13 OPERATIONAL NEWS: PART I

HR AMSAT NEWS SERVICE BULLETIN 165.04 FROM AMSAT HQ
SILVER SPRING, MD JUNE 13, 1992 BID:\$ANS-165.04
TO ALL RADIO AMATEURS BT

A0-13 Operational News from A0-13 Command Stations: PART I

Orientation News 1992 Jun 10 - Jul 20

The magnetorquing operation to re-orient A0-13 is now complete, with the new attitude longitude and latitude ALON/ALAT (BLON/BLAT) = 210/1 degrees.

The next re-orientation will commence on July 20 from 210/0 to 150/0 via an interim attitude of 180/15 and will take about 10 days. With the antennas

pointing 15 degrees out of the orbit plane, transponder performance will be relatively poor. When at 150/0, which will last until Sep 21, apogee access for Southern Hemisphere stations will be all but useless. There is absolutely nothing we can do about this, other than reposition the Sun's orbit. This is beyond AMSAT's budget at present.

Calendar of Events For A0-13 To The End of 1992

Date	Event	Modes	Sun Angle	Suns Position SEL/SAZ
1992 Jun 29 [Mon]	JLS OFF	B -- -	24	-33/149
1992 Jul 20 [Mon]	Move to 150/0	B -- -	43 to 44	-34/176
1992 Aug 17 [Mon]	JLS ON	B JL S	28	-26/208
1992 Sep 21 [Mon]	Move to 180/0	B JL S	-1 to 29	-2/241
1992 Nov 23 [Mon]	Move to 210/0	B JL S	-29 to -4	33/305
1992 Dec 14 [Mon]	JLS OFF	B -- -	-27	33/333
1992 Dec 28 [Mon]	t.b.a.		43	29/351

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SB SAT @ AMSAT \$ANS-165.05

A0-13 OPERATIONAL NEWS: PART II

HR AMSAT NEWS SERVICE BULLETIN 165.05 FROM AMSAT HQ
SILVER SPRING, MD JUNE 13, 1992 BID:\$ANS-165.05
TO ALL RADIO AMATEURS BT

A0-13 Operational News from A0-13 Command Stations: PART II

Schedule News 1992 Jun 10 - Sep 21

The published "210/0" schedule is now in place with alternate day Mode B/L and S operation. The Mode-S control problem that turned the S beacon off after only 1 MA unit during Mode-L has been fixed.

Kindly note that if power budget problems ever arise, Mode-S is usually the first thing to be turned off to compensate, without notice. Similarly, transient departures from the published schedules are sometimes needed for command purposes, particularly during magnetorquing days.

From Jun 29 the solar illumination will be insufficient to sustain modes JL and S, so Mode B will be continuous through to Aug 17.

By convention, schedules are only announced one "season" in advance. Thus, from August 17 Mode B, JL and S operations resume with the following:

A0-13 Transponder Schedule 1992 Aug 17 - Sep 21

Mode-B : MA 0 to MA 40 ! from 1992 Aug 17 until Sep 21
Mode-S : MA 40 to MA 50 !<- S transponder; B trsp. is OFF!
Mode-LS : MA 50 to MA 55 !<- S beacon + L transponder
Mode-JL : MA 55 to MA 70 ! This schedule operates
Mode-B : MA 70 to MA 256 ! every orbit, every day.
Omnis : MA 160 to MA 10 ! Alon/Alat 150/0
Please DON'T uplink to Mode-B MA 40-50; interferes with Mode S.

This schedule, which reverts to the old every-day routine, was determined on 1992 May 27 at a meeting of A0-13 Command Stations during the Phase 3D Design Conference held in Marburg, Germany.

The decision to discontinue the experimental alternate day schedule is dictated entirely by spacecraft security.

The primary A0-13 management requirement is to maintain the health of the spacecraft AND to provide the best operating conditions for users of the spacecraft's transponders. It is always a juggling act for the Command Stations to try and balance these often opposed goals. Faced with deciding between health versus performance the Command Stations will always choose the conservative approach and give priority to the health issues.

The extended 2.25 hour long Mode J/L/S periods drained the battery too heavily, resulting in uncomfortably low battery charge and regularly tripped under-voltage software "fuses." This practice is undesirable and has to be avoided.

A second reason is that commanding on Mode-B is virtually impossible due to suspected radar interference on 70cm; alternate days of Mode B therefore reduced the Command Stations' daily control capability by 50%, and we found this an untenable situation to be in.

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SB SAT @ AMSAT \$ANS-165.06
A0-13 OPERATIONAL NEWS: PART III

HR AMSAT NEWS SERVICE BULLETIN 165.06 FROM AMSAT HQ
SILVER SPRING, MD JUNE 13, 1992 BID:\$ANS-165.06
TO ALL RADIO AMATEURS BT

A0-13 Operational News from A0-13 Command Stations: PART III

INFORMATION

Don't rely on gossip and rumor! Up to date information about A0-13 operations is always available on the beacons, 145.812 MHz or 435.658 MHz in CW, RTTY and 400 bps PSK. These bulletins are also posted to Internet, AMSAT News Service (ANS), Packet, U0-22, F0-20, and a plethora of international AMSAT Newsletters.

The active command stations are listed below, and constructive feedback about operations is always welcome.

Peter DB20S @ DK0MAV
James G3RUH @ GB7DDX
Graham VK5AGR @ VK5WI

The above may also be reached via Internet and U0-22.

[This bulletin prepared by on behalf of, and in total collaboration with, all the A0-13 command stations by G3RUH]

/EX

SB SAT @ AMSAT \$ANS-165.07
A0-13 OPERATIONS NET SCHEDULE

HR AMSAT NEWS SERVICE BULLETIN 165.07 FROM AMSAT HQ
SILVER SPRING, MD JUNE 13, 1992 BID:\$ANS-165.07
TO ALL RADIO AMATEURS BT

AMSAT-NA Operations Net Schedule

AMSAT Operations Nets are planned for the following times. Mode B nets are conducted on A0-13 on a downlink frequency of 145.950 MHz and Mode J/L on a downlink of 435.970 MHz.

Date	UTC	Mode	Phs	NCS	Alt
------	-----	------	-----	-----	-----

20-Jun-92	2000	B	146	WA5ZIB	WJ9F
5-Jul-92	0200	B	118	W90DI	N7NQM
11-Jul-92	2300	B	225	W5IU	WA5ZIB

Guest commentators are planned. Join the net if you have questions. In the unlikely event that either the NCS or the alternate do not call on frequency, any participant is invited to act as net control.

Slow Scan Television on A0-13

The SSTV net will meet on a downlink frequency of 145.925, Mode B at MA 165, UTC Sundays. Also try Mode J, UTC Saturdays at MA 165, on a downlink frequency of 435.980. Try the various AMSAT nets for scheduling at other times.

/EX

SB SAT @ AMSAT \$ANS-165.08
SUMMER A0-13 TRANSPONDER SCHED

HR AMSAT NEWS SERVICE BULLETIN 165.08 FROM AMSAT HQ
SILVER SPRING, MD JUNE 13, 1992 BID:\$ANS-165.08
TO ALL RADIO AMATEURS BT

A0-13 Late Summer Schedule Announced

The current schedule for A0-13 is as follows:

N QST 1992 May 08 A0-13 Transponder Schedule Jun 10 - Jul 20
Mode-B : MA 000 to MA 165 ! Mode-JL on Mon, Wed !
Mode-JL : MA 165 to MA 200 ! Fri and Sat UTC only. ! Alon/Alat
Mode-LS : MA 200 to MA 215 ! S Beacon on "L" days ! 210/0
Mode-B : MA 215 to MA 256 ! S Transp on "B" days +-----/
Omnis : MA 250 to MA 060 ! Mode L OFF after Jun 23 until
Aug 17. Next attitude change Jul 20, to 150/0 until Sep 21.
73 de Peter DB20S, James G3RUH and Graham VK5AGR.

A0-10 is currently available for Mode B operation when it is view of your QTH. PLEASE DO NOT attempt to use A0-10 if you hear the beacon or the transponder signals Fming.

/EX

SB SAT @ AMSAT \$ANS-165.09
F0-20 MODE JA TRANSPONDER SCHED

HR AMSAT NEWS SERVICE BULLETIN 165.10 FROM AMSAT HQ
SILVER SPRING, MD JUNE 13, 1992 BID:\$ANS-165.09
TO ALL RADIO AMATEURS BT

F0-20 Transponder Operating Schedule

F0-20 normally operates its Mode JD packet radio transponder on all orbits. During the following periods, the Mode JD transponder will be switched off and the analog Mode JA transponder will be switched on:

17-Jun-92 03:15 UTC -to- 18-Jun-92 01:15 UTC
24-Jun-92 01:50 UTC -to- 25-Jun-92 02:10 UTC

[The AMSAT NEWS Service would like to thank JJ1WTK and Space News Editor KD2BD.]

/EX

SB SAT @ AMSAT \$ANS-165.10

A0-16 EXPERIMENTER'S DAY

HR AMSAT NEWS SERVICE BULLETIN 165.10 FROM AMSAT HQ
SILVER SPRING, MD JUNE 13, 1992 BID:\$ANS-165.10
TO ALL RADIO AMATEURS BT

A0-16 Experimenter's Day resumes in September.

The A0-16 Command Team has announced that the weekly Wednesday Experimenter's Day activities will take a summer break. Routine Experimenter's Day operations will be suspended for June, July, and August. However, the A0-16 Command Team urges all users to continue QRP Day operations each Wednesday by limiting their uplink power to 20-25 watts EIRP.

Experimenter's Day activities will resume in September.

/EX
SB SAT @ AMSAT \$ANS-165.11
A0-21 RUDAK INFO FROM DB20S

HR AMSAT NEWS SERVICE BULLETIN 165.11 FROM AMSAT HQ
SILVER SPRING, MD JUNE 13, 1992 BID:\$ANS-165.11
TO ALL RADIO AMATEURS BT

RUDAK BBS back!

Since this morning the RUDAK-Mailbox (RBBS) is again operational. During the late night (local time) Gerhard DG2CV successfully uploaded the software again after RUDAK/A021 was re-activated on Thursday by the INFORMATOR-1 command station. We hope that RUDAK will now stay ON for a longer period but there may be exceptions due to continuing problems with the Main Satellite. However, the main problem seems to have been fixed and together with AMSAT-U and the INFORMATOR-1 command station we are investigating a procedure to fix the remaining problems. The RUDAK hardware is still functioning 100% OK!

Vy 73s Peter Gulzow, DB20S
Gerhard Metz, DG2CV

* (1) CONNECTED to RUDAK-1 *
*** Recent RUDAK Users ***

=====
DB20S 11:45:19
VK6VV 10:40:06
SM5BVF 10:04:04
DG2CV 06:25:32
I6CGE 06:23:15
ZL1TRE 05:28:23
=====
73 de AMSAT RUDAK

* (1) CONNECTED to RUDAK *
+-----+
+ Welcome to the RUDAK II Bulletin Board System V0.04 +
+-----+
Logged in at 09-06-12 11:47:25, 1 User
This is a preliminary release.
Please report deficiencies to DL2MDL.
73 de AMSAT-UA/AMSAT-DL/RUDAK-Group.
Enter H for help.

DB20S de RUDAK> L ALL

#	From	To	Date	Time	Bytes	Subject
1	VK6VV	>ALL	09-06-12	10:31:51	108	Greetings
2	I6CGE	>ALL	09-06-12	06:18:57	76	hello
3	SM5BVF	>ALL	09-06-12	06:16:23	160	Greetings

DB20S de RUDAK> HELP

```
=====
++          Command Summary          ++
=====
```

```
H          : help
L call m-n : list msg. hdr. m-n for call
R call n   : read msg. n for call
E call n   : erase msg. n for call
S          : send message
F          : report free storage
if call is omitted, yours is used
if m-n is omitted, 1-5 is assumed
```

/EX